***Math 9 Midyear Exam – Feb. 16 or Feb. 17 during your math class***

Recommended Textbook Review: Pg. 166 # 7-17, Pg. 284 #1-6, Pg. 450 #1-13

(Textbook review will NOT be marked)

Bring:

* Ruler
* Pencils and eraser
* Calculator
* Completed Review Package

Topics to be Included:

* Rational Numbers (Ch. 2)
* Powers and Exponents (Ch. 3)
* Linear equations and Linear Inequalities (Ch. 8-9)
* Like Terms (Ch. 5)

Format:

* 35 Multiple Choice Questions
* 5 Long Answer/Written Questions (worth 11 marks) (calculator permitted for this section)

This review assignment will be marked out of 28 using our guidelines for homework:

* Show all you work clearly. Answers alone will receive no credit.
* Check your own answers with those on the website with a coloured pen.
* Correct all wrong answers beside your original work.
* Ask during morning or afternoon extra help times if you need help correcting your work. Incomplete work because you “did not know how to do a question” is NOT acceptable.

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| Criteria | 8 | 6 | 4 | 2 | 0 |
| Completion | Each section is completely done and work is shown | Most sections are done and work is shown | Some sections are complete with work shown | Just answers are provided | Work not done |
| Checking | All work has been checked and corrected in a different colour | All work has been checked and no corrections are shown | Some work has been checked | Work is correct and not checked | Work is incorrect and not checked |
| Study Notes  (on assignment or separate sheet of paper) |  |  | Complete study notes/tips have been prepared | Some study notes/tips have been made | No study notes have been prepared |

Four (4) marks will be awarded for submitting the package and study notes before the midterm!

**Ch. 2 Rational Numbers (Review pg. 82)**

Skill: Comparing and Ordering Rational Numbers (2.1)

Compare the following rational numbers. Write them in ascending order and descending order:

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|  | Descending Order:  Ascending Order: |
|  | Descending Order:  Ascending Order: |

Skill: Compare Rational numbers (2.1)

Convert to either same denominator or to a decimal.

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| Which fraction is greater, ? | Which fraction is smaller, ? |

Skill: Identify a Rational number between two given Rational numbers (2.1)

Use a number line and write equivalent fractions.

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| Identify a fraction between -2.4 and -2.5 |
| Identify a fraction between -0.3 and -0.1 |

Skill: Adding and Subtracting Rational numbers in Decimal form (2.2)

Add and subtract

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Skill: Multiplying and Dividing Rational numbers in Decimal Form (2.2)

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Skill: Apply operations with Rat’l Numbers in Decimal form(2.2)

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| A hot air balloon climbed at 0.8 m/s for 10 s. It then descended at 0.6 m/s for 6 s.   1. What was the overall change in altitude? 2. What was the average rate of change in altitude? |
| On Saturday the temperature at the Blood Reserve near Stand Off, Alberta decreased by  for 3.5h. It then decreased by for 1.5 h.   1. What was the total decrease in temperature? 2. What was the average rate of decrease in temperature? |

Skill: Problem Solving with Rat’l Numbers in Fraction form (2.3)

Adding and subtracting

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Skill: Multiplying and Dividing Rat’l Numbers in Fraction Form (2.3)

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Skill: Applying Operations with Rat’l Numbers in Fraction Form (2.3)

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| At the start of a week, Marin had $46 of her monthly allowance left. That week, she spent  of the money in bus fares, another shopping, andon snacks. How much did she have left at the end of the week? |

Skill: Determining Square Roots of Rational Numbers (2.4)

Determining a Rational number from its Square root

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| Estimate and calculate the area of a square photo with a side length of 7.1 cm |

Skill: Determining whether a rational number is a perfect square (2.4)

Is each of the following numbers a perfect square? Explain.

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| a) b) c) 0.09 |

Skill: Determine the Square Root of a Perfect Square (2.4)

Evaluate two ways, with your calculator and using fraction form

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**Chapter 3 Powers and Exponents (Review p. 120)**

Skill: Using Exponents to describe numbers (3.1)

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| Write  as a power.  Evaluate the power. | Evaluate each power. | Evaluate |

Exponent Laws (3.2)

Skill: Multiply powers with the same base, write as a single power.

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Skill: Divide powers with the same base (3.2)

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Skill: Raise powers, products, and quotients to an Exponent (3.2)

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| Write the expression as a single power. | Write the expression  as the product of two powers. Evaluate. | Write  as the quotient of two powers. Evaluate. |
| Write the expression as a single power. | Write the expression  as the product of two powers. Evaluate. | Write  as the quotient of two powers. Evaluate. |

Skill: Evaluate Quantities with an Exponent of zero (3.2)

Evaluate each expression:

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Skill: Order of Operations. (3.3)

Determine the Product of a Power

Evaluate:

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Skill: Evaluate Expressions with Powers (3.2)

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Skill: Using Exponents to Solve Problems. (3.4)

Use a formula to solve each problem:

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| A right triangle has two shorter sides that measure 8cm and 15 cm. What is the area of a square attached to the hypotenuse of the right triangle? |

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| What is the surface area of a cube with an edge length of 3m? |

**Ch. 8 Solving Linear Equations (Review p.330)**

Skill: Solve One-step equations with fractions: (8.1)

Solve each equation:

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Skill: Solve one-step equations with decimals (8.1)

Solve each equation and check your solution:

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Skill: Apply Equations of the form  (8.1)

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| If a dog musher and her dog-team average 23.5km/h during the dogsled race, how long will it take to sled 50km? Express your answer to the nearest tenth of an hour. |

Skill: Write and solve equations (8.1)

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| Winter Warehouse is selling mitts at 30% off the regular price. If the sale price is $34.99, what is the regular price of the mitts? |

Skill: Solving Equations: (8.2)

Solve two-step equations with fractions. (Leave answers in lowest terms)

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Skill: Solve two-step equations with decimals

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Skill: Solving Equations in the form, (8.3)

Solve:

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| On a typical February day in Whitehorse, Yukon Territory, the daily average temperature is . The low temperature is .What is the high temperature? | On a typical day in October is Churchill, Manitoba, the daily average temperature is . The high temperature is . Estimate and then calculate the low temperature. |

Skill: Apply Equations with Grouping Symbols (8.3)

Skill: Solving Equations:  (8.4)

Solve Equations

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**Chapter 9: Linear Inequalities (Review p.368)**

Skill: Represent Inequalities (9.1)

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| In many provinces, you must be at least 16 years of age to get a driver’s license. |
| a)Sketch a number line to represent this situation. b) Represent the situation algebraically. |

Skill: Express Inequalities

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| Express the inequality shown on the number line algebraically. | Represent the inequality  on a number line. | Write an inequality for the values shown on the number line. Describe a real-life scenario that the inequality might represent. | Show the possible values for  on a number line, if . What is the different way to express algebraically? |

Skill: Represent a Combination of Inequalities. (9.1)

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| The most extreme change in temperature in Canada took place in January 1962 in Pincher Creek, Alberta. A warm, dry wind, known as a Chinook, raised the temperature fromto in one hour. Represent the temperature during this hour using inequalities. Express the inequalities verbally, graphically, and algebraically. |

Skill: Solving Single-Step Inequalities (9.2)

Solve Inequalities (no decimals in your answers)

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Skill: Verify Solutions to Inequalities. (9.2)

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| Verify the solution for each inequality. If incorrect, what is the solution? |
| a)For the inequality , the solution is . b) For the inequality , the solution is . |

Skill: Model and Solve a Problem. (9.2)

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| Yvonne is planting trees as a summer job. She gets paid $0.15 per tree planted. She wants to earn at least $30/h. How many trees must she plant per hour in order to achieve her goal?   1. Write an inequality to model the number of trees Yvonne must plant to reach her goal. 2. Will the solution be a set of whole numbers or a set of integers? Explain. 3. Solve the inequality and interpret the solution. |

Skill: Solving Multi-Step Inequalities (9.3)

Solve each inequality and verify the solution.

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**Chapter 5 and 7: Polynomials (Review p.200 and p.278)**

Skill: Name polynomials and number of Terms (5.1)

For each expression, identify the number of terms, whether the expression is a monomial, binomial, trinomial, or polynomial, and the degree of a polynomial.

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Skill: Identifying like Terms (5.2)

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| Give an example of four like terms that have 2 or more variables in the term. | Circle the like terms in the following group: |

Skill: Collecting Like Terms (5.2)

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Skill: Adding Polynomials (5.3)

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Skill: Determining Opposite Expressions

Give the opposite of each expression.

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Skill: Subtracting Polynomials (5.3)

Simplify

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